CLAIMS:

1. A method of making a microelectronic package comprising:

providing a first substrate having a top surface;

providing a second substrate having a top surface including a plurality of conductive pads, a bottom surface remote therefrom and an opening extending between the top and bottom surfaces, and attaching said second substrate to said first substrate so that the bottom surface of said second substrate confronts the top surface of said first substrate;

placing a microelectronic element having a front face with contacts and a back face remote therefrom in the opening of said second substrate and securing said microelectronic element to said first substrate so that the back face of said microelectronic element confronts the top surface of said first substrate;

electrically interconnecting the contacts of said microelectronic element with the conductive pads of said second substrate;

juxtaposing a dielectric sheet having conductive leads with said second substrate, said conductive leads having first ends permanently attached to said dielectric sheet and second ends opposite the first ends;

electrically interconnecting the second ends of said leads to the conductive pads of said second substrate so as to electrically interconnect said leads with said contacts of said microelectronic element; and

moving said dielectric sheet and said second substrate away from one another so as to vertically extend said leads between said dielectric sheet and said second substrate.

2. The method as claimed in claim 1, wherein the

moving step includes introducing a curable liquid material between said dielectric sheet and said second substrate.

3. The method as claimed in claim 2, wherein the introducing a curable liquid material step includes injecting the curable liquid material under pressure so as to force said dielectric sheet away from said second substrate and said microelectronic element during the moving step.

4. The method as claimed in claim 2, further comprising curing the curable liquid material to form a compliant layer.

5. The method as claimed in claim 4, wherein said compliant layer is between said dielectric sheet and said second substrate.

6. The method as claimed in claim 1, wherein the step of electrically interconnecting the contacts with the conductive pads includes attaching first ends of conductive wires to the contacts of said microelectronic element and second ends of the conductive wires to the conductive pads of said second substrate.

7. The method as claimed in claim 1, wherein said dielectric sheet has a first surface including said conductive leads and a second surface having terminals accessible at the second surface, said terminals being electrically interconnected with the first ends of said leads.

8. The method as claimed in claim 1, further comprising attaching fusible conductive masses to the terminals of said dielectric sheet.

9. The method as claimed in claim 1, wherein the electrically interconnecting step includes attaching the second ends of said leads to the conductive pads of said second substrate before the moving step.

10. The method as claimed in claim 1, wherein the moving step includes moving said dielectric sheet and said second substrate relative to one another through a predetermined displacement so that said dielectric sheet moves with a vertical component of motion away from the second substrate and the microelectronic element, wherein said leads are vertically extended.

11. The method as claimed in claim 1, wherein the front face of said microelectronic element and the top surface of said second substrate are substantially coplanar after said microelectronic element has been attached to said first substrate.

12. The method as claimed in claim 1, wherein said second substrate is attached to said first substrate using an adhesive.

13. The method as claimed in claim 12, wherein said adhesive includes a material having a low coefficient of expansion.

14. The method as claimed in claim 13, wherein said low coefficient of expansion material is an epoxy.

15. The method as claimed in claim 12, wherein said adhesive is a thermally conductive adhesive.

16. The method as claimed in claim 1, wherein said first substrate is thermally conductive.

17. The method as claimed in claim 1, wherein said first substrate is made of a material selected from the group consisting of ceramic and aluminum nitride.

18. The method as claimed in claim 1, wherein said second substrate is selected from the group consisting of FR4 and bismaleimide triazine boards.

19. The method as claimed in claim 1, wherein the attaching said microelectronic element step includes providing an adhesive over the top surface of said first

substrate and abutting the back face of said microelectronic element against the adhesive applied to said first substrate.

20. The method as claimed in claim 1, wherein said microelectronic element is selected from the group consisting of semiconductor chips and semiconductor wafers.

21. The method as claimed in claim 1, wherein the electrically interconnecting the contacts and conductive pads step includes attaching first ends of conductive wires to said contacts and second ends of said conductive wires to said conductive pads.

22. The method as claimed in claim 21, wherein the attaching first and second ends of conductive wires step includes using a wire bonding tool.

23. The method as claimed in claim 1, wherein said dielectric sheet is flexible.

24. The method as claimed in claim 1, wherein said dielectric sheet is rigid.

25. The method as claimed in claim 1, wherein the moving step comprises:

attaching a top platen to said dielectric sheet and a bottom platen to said first substrate; and

moving said first and second platens away from one another.

26. The method as claimed in claim 25, wherein the attaching a top platen and a bottom platen step includes drawing a vacuum through said top and bottom platens.

27. The method as claimed in claim 1, wherein the second ends of said leads are peeled away from the first surface of said dielectric sheet during the moving step.

28. The method as claimed in claim 1, wherein said first and second substrates have coefficients of thermal

expansion that are substantially similar to one another for minimizing stress and strain on said leads.

29. A method of making a microelectronic package comprising:

providing a first substrate having a top surface;

providing a second substrate having a top surface including a plurality of conductive pads, a bottom surface remote therefrom and an opening extending between the top and bottom surfaces, and securing said second substrate over said first substrate so that the bottom surface of said second substrate confronts the top surface of said first substrate, wherein said first and second substrates have coefficients of thermal expansion that are substantially similar to one another;

placing a microelectronic element having a front face with contacts and a back face remote therefrom in the opening of said second substrate and securing said microelectronic element over said first substrate so that the back face of said microelectronic element confronts the top surface of said first substrate; and

electrically interconnecting the contacts of said microelectronic element with the conductive pads of said second substrate.

30. The method as claimed in claim 29, wherein the electrically interconnecting step includes attaching first ends of conductive wires to the contacts of said microelectronic element and second ends of said conductive wires to the conductive pads of said second substrate.

31. The method as claimed in claim 30, further comprising:

juxtaposing a dielectric sheet having conductive leads with said second substrate, said conductive leads having first ends permanently attached to said dielectric

sheet and second ends opposite the first ends;

electrically interconnecting the second ends of said leads to the conductive pads of said second substrate so as to electrically interconnect said leads with said microelectronic element; and

moving said dielectric sheet and said second substrate away from one another so as to vertically extend said leads between said dielectric sheet and said second substrate.

32. The method as claimed in claim 30, wherein said first and second substrates have coefficients of thermal expansion that are substantially similar.

33. A method of making microelectronic packages comprising:

providing a first substrate having a top surface;

providing a second substrate having a top surface, a bottom surface, and a plurality of openings extending between the top and bottom surfaces, and attaching said second substrate to said first substrate so that the bottom surface of said second substrate confronts the top surface of said first substrate, said second substrate having a plurality of conductive pads at the top surface thereof;

disposing microelectronic elements in the plurality of openings of said second substrate, each said microelectronic element having a front face with contacts and a back face remote therefrom, wherein the back faces of said microelectronic elements confront the top surface of said first substrate; and

electrically interconnecting the contacts of said microelectronic elements with the conductive pads of said second substrate.

34. The method as claimed in claim 33, further

comprising:

juxtaposing a dielectric sheet having conductive leads with said second substrate and said microelectronic elements, said conductive leads having first ends permanently attached to said dielectric sheet and second ends releasably attached to said dielectric sheet;

electrically interconnecting the second ends of said leads to the conductive pads of said second substrate; and

moving said dielectric sheet and said second substrate away from one another so as to vertically extend said leads between said dielectric sheet and said second substrate.

35. The method as claimed in claim 33, wherein the front faces of said microelectronic elements are substantially coplanar with the top surface of said second substrate.

36. The method as claimed in claim 34, wherein the moving step includes introducing a curable liquid encapsulant between said dielectric sheet and said second substrate and curing said curable liquid material to form a compliant layer.

37. The method as claimed in claim 36, wherein said encapsulant is a low modulus material.

38. The method as claimed in claim 33, wherein the electrically interconnecting step includes attaching first ends of conductive wires to the contacts of said microelectronic element and attaching second ends of said conductive wires to the conductive pads of said second substrate.

39. The method as claimed in claim 38, further comprising providing a protective coating over the conductive wires attached to the contacts and the conductive pads.

40. The method as claimed in claim 33, wherein said first and second substrates have coefficients of thermal expansion that are substantially similar to one another.